To: Senior Mathematics Tutors (also to all college mathematics tutors)

Hilary Term 2019 – Teaching Information

1. **PRELIMS AND CORE PART A COLLECTIONS** on Michaelmas term lecture material have been revised and new versions are now on the web in the restricted Information for Teaching Staff Restricted Materials.

   Note, this year as last year, Teaching Committee has decided to provide three specimen collections in each case. Lecturers will not be asked in future to provide collection questions and these specimen papers will be the only ones available (at least for the foreseeable future). College tutors may set whichever of these papers they wish, or may pick and choose questions from the papers (the tex files are available).

   You will need your Mathematical Institute IT username and password to access these and some other material at [https://www.maths.ox.ac.uk/members/teaching-staff/restricted/collections-directory](https://www.maths.ox.ac.uk/members/teaching-staff/restricted/collections-directory).

   If you have difficulty with this please contact the IT staff via help@maths.ox.ac.uk.

2. **Computational Mathematics**

   Drs Paganini and Nanda will be giving two lectures, for all students taking the course, in L1 from 11am on Tuesday of Weeks 1 and 3.

   **Computational Mathematics Projects**

   The Computational Mathematics course will continue this term. All first-year undergraduates taking Mathematics or Mathematics & Statistics must complete two Computational Mathematics projects. These count towards Prelims. The deadlines for these projects are Monday 12 noon, Weeks 6 and 9. Project handbooks are available from reception at the Mathematical Institute or online at [https://courses.maths.ox.ac.uk/node/37598](https://courses.maths.ox.ac.uk/node/37598).

   **Late Submissions**

   Candidates who miss the above deadlines may ask their college to apply to the Proctors for permission for late submission. Please see the Examination Conventions for further detail [https://www.maths.ox.ac.uk/members/students/undergraduate-courses/examinations-assessments/examination-conventions](https://www.maths.ox.ac.uk/members/students/undergraduate-courses/examinations-assessments/examination-conventions).

   **Demonstration Sessions**

   This term, the Computational Mathematics slots in Week 1 and 2 will be the same as those for weeks 7 and 8, respectively, of Michaelmas term. From Week 3 onwards, there are no fixed hours for each college, so your students may use the timetabled classrooms at the Mathematical Institute whenever suits them at the following times:

   - Weeks 3-8: Monday 3pm-4pm in C1, Thursday 3pm-4pm in C3.
   - Weeks 5: Wednesday 3pm-5pm in C3, Friday 3pm-5pm in C3.
   - Week 8: Friday 3pm-5pm in C3.

   Please note that if students need to borrow a laptop they should inform Academic Admin (acadadmin@maths.ox.ac.uk) well in advance of their chosen sessions to ensure availability.
3. **Hilary Term Lecture List**
The lecture list can be found on the website;  
[https://www.maths.ox.ac.uk/members/students/lecture-lists](https://www.maths.ox.ac.uk/members/students/lecture-lists)

4. **Intercollegiate Classes**
In some areas there is a shortage of tutors and we may have to run classes with more than 12 students. Where this seems likely Victoria Waterson will email you to alert you. She will ask colleges if they wish to withdraw their students. If the students DO attend, the college will be billed at the usual rate.

The report on classes for 2017/18 is posted at  
[https://www.maths.ox.ac.uk/members/teaching-staff/restricted](https://www.maths.ox.ac.uk/members/teaching-staff/restricted)

5. **Intercollegiate Class Sign Up**
Part B and C students will be able to sign up to intercollegiate classes through the online sign up tool on the Mathematical Institute website for Hilary term.

We have asked class tutors to input their class times and weeks into Minerva by **Wednesday of Week 0 of Hilary term**. Students will then have from Thursday noon of week 0 till Monday noon of week 1 to sign up to the classes they would like to take they can sign up to 5 classes through the online signup and if they wish to sign up to more they will need to email acadadmin@maths.ox.ac.uk and we will sign them up manually.

6. **Exam Entry**
Prelims students are entered automatically at registration.

All Part A, B and C students will be expected to enter for examinations on-line. All students will be notified of this via email from the Academic Records Office.

For Part A, students should enter for their examinations by noon Friday 8th February 2019. Whilst we cannot confirm individual dates of exams at this point, the Part A exams will be timed for Weeks 8 and 9 in Trinity.

For Parts B and C, students should enter for their examinations by noon on Friday 25th January 2019.

In due course an email will be sent to each candidate by the Academic Records Office.

As examination entry is now dealt with electronically it is no longer possible for Part B students to declare on their exam entry form their intention to take either the three-year (BA) or four-year (MMath/MMathPhil/MMathStats) course. **Therefore we will be writing to all Part B students in week 3 asking them to declare their intention to either take the three-year or four-year course.** Once we have received the results will circulate them to college offices.

7. **Part A Structure – Long Options - REMINDER**
Second year Mathematicians need to offer papers A0, A1, A2 and Paper ASO (on the Short Options). They also need to offer 5 or 6 of the Long Option papers. Previously 5 was the only possibility, and it is expected that this will remain the case for most students with perhaps some selection of high-achieving students taking on the extra workload.

If a student wishes to be examined in 6 long options they should fill in the exam entry form accordingly in due course. When 6 long options are taken the student’s best four papers will count with a unit’s weight and the worst two papers with half a unit’s weight. (This is so that taking an extra paper is not lightly decided upon but at the same time students are not disadvantaged in taking an extra option). All exam marks will appear on a student’s transcript. If in doubt, students should discuss this further with their college mathematics tutors.
Only Mathematics and Mathematics & Statistics students are currently eligible to take an additional long option.

8. **Part A short options**
   Teaching Committee will shortly be circulating a document containing brief descriptors on the Part A short option to help students choose which short options will suit them best.

9. **FHS Maths & Philosophy Second Years – Part A structure**
   If any candidate wishes to apply to the Joint Committee for Mathematics & Philosophy for approval of other optional subjects as listed for Part A of Mathematics – beyond the standardly permitted Rings and Modules, Integration, Topology, Probability, Short Options – the application should be made through the candidate’s college to the Chairman, Joint Committee for Mathematics & Philosophy, c/o Academic Administrator, Mathematical Institute, to arrive by **5pm on Monday of week 2 Hilary term**.

10. **History of Mathematics**
    Please note that the extended essays must be handed in to the Examination Schools by noon on **Monday of week 10 this term**. Students need to submit two hard copies and one electronic copy. Further details will be communicated to candidates via the Notices.

11. **Undergraduate Ambassadors Scheme**
    Please note the deadline for journals and reports for the Undergraduate Ambassadors Scheme is noon on Monday of 1st week Trinity term. Students need to submit two hard copies and one electronic copy.

12. **Part B Extended Essays and Structured Projects**
    The deadline for extended essays and dissertations is 12 noon Monday week 10 of Hilary term. Students need to submit two hard copies and one electronic copy. This year supervisors will be one of the assessors for the projects they have supervised. The project will also be independently examined by another assessor. Details of the electronic submission will be included on the Notices to candidates.

13. **Part C/OMMS Dissertations**
    As you are aware there have been a number of changes to the Part C dissertations. The deadline for dissertations is now **12noon on Monday of week 1, Trinity term**. Students need to submit two hard copies and one electronic copy. Supervisors will be one of the assessors for the projects they have supervised. The project will also be independently examined by another assessor. Details of the electronic submission will be included on the Notices to candidates.

14. **REMEMBER - Part C – New For 18/19**
    Part C students must be assessed on a minimum of 8 units. From this year they may choose to be assessed on a further 1 or 2 units. A student’s overall classification will be based on their best 8 USMs. It is anticipated that most students will continue to choose to do 8 units with perhaps some selection of highest achieving taking on the extra workload of 1 or 2 units.

15. **MMathPhys – DEADLINE REMINDER**
    MMath students entering their third year (but not joint schools) will have the option of applying to transfer to a fourth year in Mathematical and Theoretical Physics, and completing their degree with an MMathPhys. The deadline for applications is **noon on 25th January 2019**. Full details can be found at [http://www-thphys.physics.ox.ac.uk/MMathPhys/MMathPhysWeb/index.html](http://www-thphys.physics.ox.ac.uk/MMathPhys/MMathPhysWeb/index.html)

    Students wishing to transfer to the MMathPhys must apply by following the link below by noon on 25th January 2019 applications received after this date will not be considered. [https://www.maths.ox.ac.uk/members/students/undergraduate-courses/mmathphys-msc-mtp/mmphys-applications-2019-entry](https://www.maths.ox.ac.uk/members/students/undergraduate-courses/mmathphys-msc-mtp/mmphys-applications-2019-entry)

    All references must also be received by this date references can be emailed to mathematical.physics@maths.ox.ac.uk
The course is challenging and it is anticipated that most students transferring to the course will achieve first class marks in Parts A/B.

16. Examiners Reports
All examination reports including external examiners' reports are now posted on-line and can be found at: https://www.maths.ox.ac.uk/members/students/undergraduate-courses/examinations-assessments/examiners-reports

17. Summer Projects 2019
Please note that the deadline for students to apply for funding from the Mathematical Institute for a summer project is 9am on Monday week 3 (29th January 2019). Please also encourage students to apply for other sources available funding such as such as the Wellcome Trust Vacation Scholarships, LMS Undergraduate Research Bursaries 2019 and EPSRC Vacation Bursaries.

Further information has already been circulated to students but if you have any queries please contact Victoria Waterson (acadadmin@maths.ox.ac.uk)

18. Fridays@2
The first term of Fridays@2 was a great success. Please do continue to encourage your undergraduate and masters students to attend. The schedule for Hilary term is below and materials/recordings of last terms schedule can be found on-line at https://www.maths.ox.ac.uk/members/students/undergraduate-courses/fridays2

19. Undergraduate Bulletin
Please continue to draw your students’ attention to the weekly email bulletin sent to all undergraduate and masters students during term time. The bulletin aims to inform students about events taking place in the department, career opportunities and important information relating to their studies.

Dr Richard Earl
(Director of Undergraduate Studies)
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<thead>
<tr>
<th>Week</th>
<th>Target Audience:</th>
<th>Topic</th>
<th>Speaker</th>
<th>Description</th>
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<tbody>
<tr>
<td>1</td>
<td>ALL</td>
<td>Whose Maths is it Anyway?</td>
<td>Mareli Grady and James Munro</td>
<td>Are you keen to share your love of maths with non-mathematicians, but aren’t sure where to start? Whether you’re keen to get involved in outreach activities at Oxford, or you’d just like to explain to your friends and family what you do all term, there’s something for everyone in our interactive hour of workshop activities, and lots of laughs along the way. Just bring plenty of enthusiasm, and come prepared with a bit of mathematics you particularly like.</td>
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<td>2</td>
<td>ALL</td>
<td>Surely there’s no ethics in mathematics?</td>
<td>Maurice Chiodo</td>
<td>Mathematics is both the language and the instrument that connects our abstract understanding with the physical world, thus knowledge of mathematics quickly translates to substantial knowledge and influence on the way the world works. But those who have the greatest ability to understand and manipulate the world hold the greatest capacity to do damage and inflict harm. In this talk I'll explain that yes, there is ethics in mathematics, and that it is up to us as mathematicians to make good ethical choices in order to prevent our work from becoming harmful.</td>
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<td>3</td>
<td>T.B.C.</td>
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<td>Erica Tyson (The Institute of Mathematics and its Applications)</td>
<td>T.B.C. (A talk about careers)</td>
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<td>4</td>
<td>Second</td>
<td>Mathematics: the past, present and future – Mathematical Biology: How the Leopard is Changing its Spots</td>
<td>Philip Maini</td>
<td>Mathematical biology has grown enormously over the past 40 years and has changed considerably. At first, biology inspired mathematicians to come up with models that could, at an abstract level, &quot;explain&quot; biological phenomena - one of the most famous being Alan Turing's model for biological pattern formation. However, with the enormous recent advances in biotechnology and computation, the field is now truly inter- and multi-disciplinary. We shall discuss the changing role mathematics is playing in applications to biology and medicine.</td>
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<td>5</td>
<td>Telling a mathematical story</td>
<td>Vicky Neale and Richard Earl</td>
<td>T.B.C. (A talk on presenting mathematics)</td>
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<td>6</td>
<td>How we learn</td>
<td>Dr Iro Xenidou-Dervou</td>
<td>How do humans process information? What are their strengths and limitations? This crash course in cognitive psychology will provide the background necessary to think realistically about how learning works.</td>
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<td>7</td>
<td>Mathematics: the past, present and future - Polynomials</td>
<td>Nick Trefethen</td>
<td>Polynomials have been at the heart of mathematics for a millennium, yet when it comes to applying them, there are many puzzles and surprises. Among others, our tour will visit Newton, Lagrange, Gauss, Galois, Runge, Bernstein, Clenshaw and Chebfun (with a computer demo).</td>
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<td>8</td>
<td>The Big Mathematical Quiz of the Year</td>
<td>Richard Earl and Vicky Neale</td>
<td>Mathematical quiz – end of term fun!</td>
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